



E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED  
WILMINGTON, DELAWARE 19898

cc: A. J. Dahl - 353  
B. W. Karrh - N11400  
L. J. Papa - 269  
Pral File  
I.C.

Complainant's  
Exhibit No. 65

POLYMER PRODUCTS DEPARTMENT  
EXPERIMENTAL STATION

PERSONAL AND CONFIDENTIAL

September 8, 1981

TO: DR. Y. L. POWER - PPD, Parkersburg  
FROM: S. S. STAFFORD *S. S. Stafford*

ANALYSIS OF BLOOD SAMPLES FOR PERFLUOROOCTANOATE  
(Job No. 810-578; PRAL Nos. 81-3293, 81-3309, 81-3562-3602;  
Notebook Nos. E22514, E26238)

As requested in your letter of 8/11/81 to L. J. Papa, the 41 blood samples submitted then have been analyzed for perfluorooctanoate ( $C_8$ ) by the usual gas chromatographic method ES-567. Results and sample identification are given in the attached table.

Results are also included there for two samples submitted 7/28/81 (81-3293 and 81-3309), which were analyzed along with this group.

Attachment  
jah

Key Words:  
Perfluorooctanoate  
GC  
Blood Analysis

There's a world of things we're doing something about

EXP000052  
EID713866

TABLE I  
CONCENTRATION OF PERFLUOROOCTANOATE IN BLOOD (a)

<u>Sample</u>			<u>Name</u>	<u>GC Analysis</u>	
<u>PRAL No.</u>	<u>Date Sampled</u>	<u>P.R.No.</u>		<u>Date Analyzed</u>	<u>[C<sub>8</sub>], µg F/g blo</u>
81-3293	7/6/81	3854		8/26/81	32.
81-3309	7/17/81	1508		8/26/81	9.6
81-3562	7/28/81	W.S.		8/20/81	n.d.
81-3563	7/28/81	W.S.		8/20/81	0.094
81-3564	7/29/81	W.S.		8/20/81	0.27
81-3565	7/29/81	W.S.		8/20/81	0.099
81-3566	7/29/81	4668		8/21/81	0.61
81-3567	7/29/81	3417		8/26/81	9.1
81-3568	7/30/81	948		8/21/81	0.87
81-3569	7/30/81	625		8/21/81	0.25
81-3570	7/30/81	4406		8/21/81	0.54
81-3571	7/30/81	4566		8/21/81	0.17
81-3572	7/30/81	370		8/21/81	0.64
81-3573	7/31/81	8864		8/21/81	0.12
81-3574	7/31/81	W.S.		8/21/81	0.21
81-3575	7/31/81	W.S.		8/21/81	0.33
81-3576	8/3/81	4654		8/21 & 8/24/81	0.038
81-3577	8/3/81	W.S.		8/24/81	0.18
81-3578	8/4/81	4639		8/24/81	0.12
81-3579	8/5/81	W.S.		8/24/81	0.080
81-3580	8/5/81	4634		8/24/81	0.052
81-3581	8/5/81	4398		8/26/81	4.1
81-3582	8/5/81	4666		8/24/81	0.053
81-3583	8/5/81	889		8/26/81	4.2
81-3584	8/5/81	4266		8/26/81	3.3
81-3585	8/6/81	1955		8/24/81	0.24
81-3586	8/6/81	W.S.		8/24/81	0.20
81-3587	8/6/81	W.S.		8/24/81	0.22
81-3588	8/6/81	380		8/26/81	3.0
81-3589	8/6/81	4653		8/25/81	0.24
81-3590	8/7/81	4542		8/27/81	4.3
81-3591	8/7/81	W.S.		8/25 & 8/28/81	0.047
81-3592	8/7/81	3485		8/27/81	9.4
81-3593	8/7/81	1744		8/26/81	5.3

EXPO00053  
\*REDACTED\* EID713867

TABLE I  
CONCENTRATION OF PERFLUOROOCTANOATE IN BLOOD (a)

<u>Sample</u>				<u>GC Analysis</u>	
<u>PRAL No.</u>	<u>Date Sampled</u>	<u>P.R.No.</u>	<u>Name</u>	<u>Date Analyzed</u>	<u>[C<sub>8</sub>], µg F/g blood</u>
81-3594	8/10/81	4283		8/25 & 9/2/81	0.059
81-3595	8/10/81	W.S.		8/25 & 8/28/81	0.48
81-3596	8/10/81	883		8/25/81	0.083
81-3597	8/10/81	W.S.		8/25/81	0.23
81-3598	8/10/81	4182		8/25/81	0.083
81-3599	8/10/81	4282		8/26/81	4.4
81-3600	8/10/81	4181		8/25/81	0.59
81-3601	8/10/81	4111		8/26/81	3.2
81-3602	8/10/81	4225		8/25 & 9/2/81	0.066
81-1427	4/6/81	4283		9/2/81	0.052 (c)
81-1439	4/6/81	4225		9/2/81	0.059 (c)

- (a) Analysis as described in Lab Method ES-567 ("Determination of Perfluoroctanoic Acid in Blood, Gas Chromatographic Method", S. Stafford, 4/3/81), using the packed column GC analysis with perfluoro-n-octanoic acid as calibration standard.
- (b) Although the analysis is specifically for perfluoroctanoate (acid or salts), concentrations are given in ppm fluorine for comparison with the results of total organic fluorine analyses. ( $\text{ppm F} = 0.688 \times \text{ppm perfluoroctanoic acid}$ ) Estimated uncertainty is  $\pm 10\%$  relative standard deviation. The lower limit for quantitation is  $0.007 \mu\text{gF/g}$ . The detection limit is  $\sim 0.004 \mu\text{gF/g}$ , but concentrations in that range cannot be well quantitated and are reported as  $< 0.007$ . None detected (n.d.) is reported for samples with  $[\text{C}_8] \leq 0.004 \text{ ppm}$ , which cannot be distinguished from reagent background.
- (c) Previously analyzed samples, reanalyzed for comparison with repeat samples 81-3594 and 81-3602; results of the initial analyses were 0.051 (81-1427, 4/13/81) and 0.054 (81-1439, 4/14/81).